3.12 CULTURAL RESOURCES

This section addresses the cultural resources issues associated with the Dutch Slough Restoration Project. Cultural resources are defined as prehistoric and historic sites, structures, and districts or landscapes, or any other physical evidence associated with human activity for scientific, traditional, religious, or other reasons. These include resources considered important to contemporary cultures, subcultures, or communities that have been integral to the culture of that population for at least the past 50 years. Prehistoric resources of the Emerson, Burroughs, and Gilbert parcels were evaluated by DWR archaeologists in April 2004 (DWR 2004); the archaeological resources of the Ironhouse parcel were evaluated by Holman & Associates in September 2005 (Holman 2005). A detailed evaluation of historic architectural and landscape resources evaluation was prepared by Ward Hill, Marjorie Dobkin and Denise Bradley in 2006. Cultural resources evaluation forms and findings are on file at the Department of Water Resources offices.

3.12.1 AFFECTED ENVIRONMENT

Natural Setting

The Dutch Slough project area is located at the western end of the Sacramento-San Joaquin Delta in Contra Costa County, directly south of Jersey Island and just east of the city of Oakley. It is bound by Dutch Slough to the north, Marsh Creek on the west, Jersey Island Road on the east, and the Contra Costa Canal to the south. Two man-made channels, Little Dutch Slough and Emerson Slough, extend south off of Dutch Slough and divide the project area roughly into thirds to contain the Burroughs, Gilbert, and Emerson properties, from east to west, respectively. Acreage directly adjacent to Dutch Slough, particularly on the Emerson property, is below sea level and is protected from bay waters by the presence of a levee. In general the project area rises in elevation from north to south, from approximately 9 feet below sea level to 8 feet above sea level.

A vast majority of the project area is densely covered with non-native annual grasses and forbs, such as Bermuda grass and wild oats. The sloughs and canals within the project area support stands of willows and berry brambles. Fourteen acres of dry-farmed grapes are cultivated on high ground at the west edge of the Emerson parcel. The vineyard was planted in the early years of the 20th century. Lastly, numerous large, old cottonwoods grow on the Burroughs property. These trees were planted in the 1920s. Other ornamental plants have been planted around the Burroughs houses and ranch complex. The entire area has been subject to a great deal of modification.

PREHISTORIC CONTEXT

The project area lies in the Delta area of the Central California archaeological region. Archaeological resources strongly reflect those of the southern Sacramento Valley, which has been studied extensively and, thus, has a well defined chronological sequence. From these investigative efforts, three distinct patterns, the Windmiller, the Berkeley, and the Augustine, have been established to describe the area's prehistory (Moratto 2004).

The Windmiller Pattern dominated the region from approximately 5,000 to 2,500 years ago. Relative to subsequent periods, Windmiller subsistence appears to have focused largely on hunting, as evidenced by large quantities of faunal remains and projectile points in the archaeological record.

However, fishing and seed procurement were also evident. With regard to tool technology, both flaked stone and ground stone industries are well represented. Facilitating the acquisition of materials for tool and ornament production was a vast trade network, where obsidian was obtained from North Coast Range and eastern Sierran sources, shell beads from the coast, and quartz and alabaster from the Sierra foothills. The Windmiller Pattern is also characterized by distinctive burial patterns, with bodies typically buried fully extended, face down, with the head oriented toward the west, and the placement of funerary objects (Moratto 2004).

The Berkeley Pattern has been identified in the Sacramento Valley from approximately 3,600 to 1,000 years ago. This pattern is represented by an apparent increase in the use of pestles and mortars, which is thought indicative of an intensified reliance on acorns as a principal dietary staple. In addition, the Berkeley Pattern exemplifies a well-developed bone tool industry, distinctive diagonal flaking of large concave-base points, and marked forms of shell beads and ornaments. In contrast to the Windmiller pattern, Berkeley burials are found in a flexed position with variable orientation and fewer funerary artifacts (Moratto 2004).

The Augustine Pattern occurred in the Sacramento Valley from approximately 2,000 to 250 years ago. This pattern is distinguished by large populations with complex social systems that depended heavily upon fishing, hunting, and gathering. Tool technology is represented by shaped pestles and mortars, bone awls, the bow and arrow, and in some cases pottery. There was considerable variation in mortuary practices including flexed burials, cremation, and funerary object differentiation (Moratto 2004).

ETHNOGRAPHIC BACKGROUND

The project area lies within territory historically occupied by speakers of the Bay Miwok language (Bennyhoff 1977; Levy 1978). Little is known about this group due to the fact that they had been devastated by disease and missionization by the early 1800s; however it is thought that they held lands all around and including Mount Diablo, the south shore of the Carquinez Straits to the mouth of the San Joaquin River and a small portion of land north of Carquinez Strait at Benicia. Mission records indicate the presence of two tribelet centers in the vicinity of Dutch Slough: *Chupcan* near Antioch and Julpun located further to the east. There are no known ethnographic villages located in the immediate vicinity of the Dutch Slough project area.

HISTORIC BACKGROUND

Pedro Fages led the first Spanish exploration of the future area of Contra Costa County in 1772. During the Spanish period, the present-day Oakley area was under the control of Mission San Jose, which may have grazed sheep and cattle in parts of the project vicinity during the early 19th century, though the mission did not maintain a settlement on or near the project site.

After Mexico seceded from Spain in 1822, the Mexican government began making land grants to private citizens. The number of land grants increased substantially after the secularization of the missions enacted by the Mexican legislature in 1833. The government made 16 land grants in Contra Costa County including about half the present day county area.

In 1836 Jose Noriega received a land grant to the Rancho Los Meganos that includes present-day Oakley, Knightsen and Brentwood. In 1837 Noriega sold the 13,316-acre rancho to physician Dr. John Marsh, a native of Massachusetts who was the first prominent American settler in the region.

With the help of local Indian workers, Marsh established a cattle ranch with about 6,000 head of cattle. He also raised grain and had several vineyards and fruit orchards. From that time the Rancho Los Meganos was also known as the Marsh Rancho (Smith and Elliott 1879: 11;Historic Record Company 1926:166,381).

California's isolation from Mexico and the increasing number of Anglo-American settlers culminated in the 1846-47 war with Mexico. In 1848, California became a United States territory through the Treaty of Guadalupe Hidalgo which ended the war. California remained a U.S. territory from 1848-1849 and was not formally admitted as a state of the union until 1850. Contra Costa County was one of the original California counties created by the state legislature after 1850. Contra Costa originally included all of present day Alameda County which became a separate entity in 1853.

Throughout the 19th and for much of the 20th century, Contra Costa County maintained its rural character as a place of small farms and country homes. Despite the presence of squatters starting in the 1850s, it was not until the 1870s that permanent homesteaders settled in the Oakley and Knightsen areas.

The Gold Rush of the late 1840s and early 1850s brought a massive influx of immigrants to California from all parts of the world. California's 1848 population of less than 14,000 (exclusive of Indians) increased to 224,000 in four years. In 1847, the ferry service across the Carquinez Straits from Martinez to Benicia became an important route to the gold fields for those traveling from San Francisco.

As more and more gold seekers became discouraged with mining, they turned to farming as a livelihood. Farmers started to raise crops and livestock for a commercial market, rather than family consumption. In response, during the late 1860s, construction of the Sacramento-San Joaquin Delta levees began in an effort to prevent flooding on some of the most fertile farmland in the nation and to remedy the rising riverbeds resulting from increased silt deposits due to hydraulic mining (Department of Water Resources Levee Repair – History of Levees 2008). The project properties were drained and leveed in the mid to late 1800s in support of agricultural ventures. The entire Dutch Slough Restoration Project area has supported dairies for nearly 100 years. As a result, numerous dairy-related structures exist within the property along with homes and other associated out-buildings. Histories for each of the Burroughs, Gilbert, and Emerson dairies follow.

BURROUGHS DAIRY

The Burroughs Bros. Dairy was founded by Benjamin Burroughs and his brothers Willis and Ernest Burroughs, who purchased 320 acres of ranch land in the project area in about 1905-1907. The Burroughs brothers had started a small dairy operation and bottling plant in Oakland in the early 1900s. The Burroughs brothers also had a milk processing plant in Stockton from 1931 to 1964. In 1964 the Burroughs retail milk delivery business was sold to Crystal Dairy of Sacramento, although the ranch continued operating until 1977.

The first home on the ranch, the "Tule House," or "two Tule cabins, linked together." This house was remodeled in the summer of 1910. The house had a cozy wood stove and an indoor bathroom. Water was piped in from the slough, which they boiled and filtered for drinking. Other buildings in the early years included a windmill house, barn, men's quarters, coal and wood shed.

After the flood of 1909-1910, the family kept the dairy going on 80 acres behind a levee in the southwest corner of the ranch. The levees were built by a horse drawn "scraper". The flooding of Marsh Creek in the fall and winter of 1910-11 was a ranch emergency. Benjamin and his wife Edna were marooned by floodwater at their small ranch house, and evacuated by "a derelict but sturdy scow" manned by a local rancher, Joaquin Jose.

Benjamin Burroughs was a prime mover in the organization of Reclamation District 799 (RD 799), established in 1910, which won state support for construction of more effective levee and pumping systems. Benjamin Burroughs was the first secretary of RD 799. Levees were built by the Reclamation District, and paid for by assessments to property owners. RD 799 (still operating) is one of eleven in Contra Costa County, and 135 in California that were formed under the 1885 California Swamp and Overflowed Act. RD 799 was one of many formed in the early 1900s to finance reclamation of lands by building levees and operating drainage pumps to take water off the land behind the levees. These levees and drainage systems that have made it possible to farm the Delta's rich peat soil.

The work of the Reclamation District allowed the Burroughs family to return to the project area in March, 1913, with their one year old son Renny. Edna Burroughs explained the state of California's support for RD 799 was crucial to the survival of the ranch. In 1913, soon after Benjamin and Edna Burroughs returned to the project area, Edna's parents the Nelsons came to live on the ranch and started building themselves a cottage in 1914, which still stands. They lived there for ten years.

The Burroughs Bros. ranch in Knightsen made significant progress during the World War I period. In the 1920s the ranch got electricity from the Reclamation District, which provided power to pump the water and run ranch machinery, replacing the old coal or wood fired pumps. New telephone service gave them peace of mind in winter flood season. Electrical power made Edna Burroughs' housework much easier. They had lights, electric heat instead of a coal stove, a washing machine, a refrigerator instead of a cooler, and an electric iron instead of the red-hot stove. By the mid 1920s the ranch made the transition from horse drawn transportation to cars and trucks.

By 1926, the Burroughs Bros. dairy farm in Knightsen was a success, and prominently featured in The Historic Record Company's 1926 History of Contra Costa County (Historic Record Co. 1926:172-73). The Historic Record Company's 1926 profile mentioned a "modern residence" on the ranch, the dairy main ranch house still standing today. After the Burroughs family moved to the big house, the ranch manager Will Olds and his wife, Lois, and their three children took over the old family ranch house, or Tule House, which they relocated to and renovated in the mid 1920s. They also had boarding house for the ranch men's quarters.

After Benjamin Burroughs' death in 1942, his sons Ernest and Oscar took over the family dairy business started by their father and uncles. Ernest Burroughs succeeded his father Benjamin as Trustee on Reclamation Board 799. In 1946, Oscar Burroughs acquired the adjacent ranch (now the Gilbert Ranch), significantly expanding the Burroughs Brothers Dairy. The two Burroughs Bros. ranches merged operations after 1946, and were linked by a new bridge and road. Ernest married Mary Loo Sanders of Hollister in 1947 and the following year the young couple moved into the big family house. Edna Burroughs, Ernest's mother, lived in a small adjoining house, and divided her time between the Knightsen ranch and her son Oscar's ranch in Orland. Ernest and Oscar ran the Burroughs Bros. Dairy in Knightsen until 1977 (Burroughs 2006). Edna Burroughs lived on the ranch until her death in 1982, at age 98.

Ernest and his family moved to Denair, near Turlock, in 1979, on a dairy ranch now operated by their sons. His wife Mary Loo died there in 2004. Ernest gave the ranch to his children. His daughter Katy Burroughs Treat moved into the big ranch house in 1985 with her husband Rob. The Burroughs family decision to sell the Knightsen ranch to the state was especially difficult for Katy Burroughs Treat, who was still living at the family house in 2004.

CENTRAL SHUEY/GOLDEN STATE DAIRY

The present-day "Gilbert" parcel was known as Babbe's Landing in the late 19th century, and became a horse rehabilitation ranch in the 1890s. During the first half of the 20th century it was a 294-acre commercial dairy ranch, changing ownership several times. Before the coming of the Santa Fe Railroad in 1900, most of the dairy products, asparagus, celery, and hay grown in the Oakley and Knightsen area had been shipped to San Francisco from Babbe's Landing, on a dredged channel off Dutch Slough at the north end of Sellers Road (the site of the present day Gilbert property). Fred Babbe was a Prussian-born settler of the area who came to California during the Gold Rush and bought a 300 acre farm in the project vicinity in 1854.

In about 1895-1897, Babbe's property became a horse rehabilitation ranch, Brentwood Stock Farm, owned by Henry Dutard, a San Francisco grain and commission merchant. The ranch was known as a horse sanitarium where cart horses could be treated for injuries sustained from treading on cobblestone streets in San Francisco. The farm was also used for breeding race horses. There were paddocks, stables, and houses for ranch staff. The large 1896 house on the property appears to date from the horse ranch period. The house was later the Oscar Burroughs family home from 1946-1986.

In about 1915, the Brentwood Stock Farm site became a commercial dairy ranch. The property had several changes of ownership in a brief period, but many of the older dairy buildings still standing today were built by Oakland's Central-Shuey dairy company in the early 1920s and its successor company, San Francisco-based Golden State Milk Co. in the 1930s.

The Central Shuey Dairy was founded by Robert A. Shuey. By 1930 the Central-Shuey Creamery had merged with a big statewide dairy company, Golden State Milk Products Co., headquartered in San Francisco. Official maps of Contra Costa County show Central Shuey as the owner of the "Gilbert" parcel in 1930, and Golden State Co. Ltd. as the owner in 1938. According to local historian Kathy Leighton, Golden State enlarged the dairy ranch in the project area. The property was acquired by San Joaquin Farms, owned by Turnbull and Gray, in the late 1930s, then sold to the Kenner brothers of Utah. County historian May Purcell described the parcel in 1940 as owned by San Joaquin Farms in her history of Contra Costa County, noting it was one of the prominent dairies in the region at the time (Leighton 2001:249; Purcell 1940:212).

In 1946, Oscar Burroughs acquired the adjacent Golden State Dairy property as an expansion of the Burroughs Bros. Dairy. His brother Ernest Burroughs lived with his family on the Burroughs house built by their parents. Shortly afterwards, operations were merged and the properties connected by road. Oscar Burroughs and his wife Emogene "Genie" Nelson Burroughs, who had married in 1941, moved to the 294-acre property in Knightsen in 1946. Oscar Burroughs owned the ranch in the project area until 1986, when he sold it to the Gilbert family, the current owners.

EMERSON DAIRY

The Emerson Dairy, located on a 625-acre parcel in the town of Oakley, in eastern Contra Costa County, was established by the Emerson family in 1913, on ranch property they had owned since the 1850s. The various generations of the Emerson family acquired the 625-acre ranch through several acquisitions over decades, starting with Silas B. Emerson, a native of Harrison County, Maine, who arrived in California in 1849. According to his grand-nephew Ralph Emerson, Silas Emerson "was not interested in gold but in land," and he obtained substantial property in Mountain View. Frank and Edwin were the sons of Carlos Emerson, Silas' younger brother. Carlos Emerson settled in California in 1869 and became a co-owner with his brother Silas of part of the Emerson Ranch in the project area (Stan Emerson 2006; Ralph Emerson, 1974; Katy Emerson 1984:82-83).

The first generation of the Emerson family in California - Silas Emerson and his brother Carlos Emerson - did not live or work on the ranch. Carlos Emerson's sons Edwin and Frank first developed the Emerson Dairy in 1913 with 30 cows. Day-to-day operations were run by a tenant farmer, Frank Holdener, who leased the ranch buildings. Typically, owners would pay for all ranch buildings such as barns and milk houses, and all other facilities except for maintenance of the tenant's personal property (Stan Emerson 2006).

When Edwin and Frank Emerson began their dairy ranch in the project area, the land was raw and undeveloped. The ranch's proximity to Dutch Slough and the San Joaquin River required levee construction and water pumps for flood control. The Emersons established the first levees on their property, continuing to maintain them as a private family enterprise throughout the years. The Contra Costa Canal which runs through the Emerson property was built by the County in 1941 (Ralph Emerson 1974; Stan Emerson 2006).

There are two surviving 1913-era buildings on the property – a hand-milking barn and a horse stable. The milking barn was large enough to accommodate 186 cows. Dairy workers in California typically milked cows by hand until the 1920s and the 1930s, when dairies began using milking machines. The machines had been invented in the 1870s but did not become popular until the 1920s. In the 1860s and the 1870s, in Marin County and other dairy regions of California, dairy cows were milked outdoors, in special milking corrals. Big wooden milking barns such as the one on the Emerson Dairy ranch were a later development typically not built until the 1880s and 1890s (Livingston 1994:56).

The 1913-era horse barn on the Emerson Dairy was laid out to accommodate a string of work horses on each side and hay and alfalfa in the middle. Clydesdale horses were used as draft animals in late 19th and early 20th century farms in Contra Costa County and throughout the Delta. They were used in dairy and row crop farming until the early 1930s. The horses were, however, slow workers. Barn maintenance was costly, and horse feed requirements took land out of cash crop production (Stan Emerson 2006; Thompson 1957:400).

Frank Holdener, the tenant farmer at the Emerson ranch, may have lived in a house near the old dairy barn that was later used as a ranch cookhouse. The cookhouse dates from about the 1920s (Stan Emerson 2006).

Ralph L. Emerson was the first Emerson family member to establish a homestead and raise a family on the ranch. Ralph and his wife Ione moved to the ranch in the early 1930s. At the time the dairy had about 100 cows and five or six ranch hands. Ralph and Ione Emerson raised their sons Stan and Dale in the 1925 house still standing on the Emerson property. To build the 1925 house,

Ralph's father-in-law, a carpenter, tore down an older, larger, two-story house on the same site, formerly used as a residence for ranch hands. Nearby is a 1940s-era quarantine barn built by Ralph Emerson to isolate sick cows during a tuberculosis outbreak (Stan Emerson 2006; Ralph Emerson 1974).

In 1941, Ralph Emerson also replaced the 1913 milk house used for milk storage that was adjacent to the 1913 dairy barn. The milk house has cement sides and foundation, and was built according to sanitary regulations with plaster inside. This was where milk was carried from the barn, and where it was filtered, stored and refrigerated (Stan Emerson 2006).

During the tenure of both Ralph and Stan Emerson, the family dairy sold filtered, un-pasteurized milk to dairy cooperatives, which then processed it and sold it to a variety of sources, including big companies such as Carnation and Nestle. The milk was trucked from Emerson Dairy in 10-gallon cans, in contrast to the neighboring Burroughs Bros. Dairy, where milk was bottled on the ranch, and distributed through retail milk routes (Stan Emerson 2006).

In the 1930s, Ralph Emerson hired many ranch hands who were Dust Bowl refugees from Oklahoma and Arkansas. During World War II and in later years, when able-bodied male workers were scarce, Emerson sometimes hired men from Stockton's Skid Row, as did the Burroughs Bros. Dairy (Stan Emerson 2006; Ernie Burroughs 2006). The dairy workers lived on the Emerson property in the worker housing across from the dairy barn. The oldest part of the ranch bunk-house with four units dates from the early 1940s; later additions to the bunkhouse date from about the 1960s.

The Emerson dairy operation eventually occupied about 614 acres of the total ranch property, but throughout the years the Emersons also grew feed and silage – alfalfa and corn—as well as commercial farm crops including almonds, walnuts, asparagus, soy, asparagus, and oats. There is also a vineyard on the northwest corner of the property. It was established almost 100 years ago by a Basque or Portuguese rancher, Joaquin Jose. The Emersons bought the 70-acre vineyard parcel from Joaquin Jose in the 1950s. The middle section of the ranch, about 100 acres, was irrigated in the 1950s and the 1960s. An engineer hired by Ralph Emerson built a system of buried water pipelines. Until then, the ranch had been dry-farmed (Stan Emerson 2006).

Ralph Emerson's sons Stan and Dale grew up working on the dairy farm, which by then had about 600 Holstein cows, and both sons continued the dairy business after their father's retirement in 1960.

After his marriage in the early 1960s, Stan Emerson and his wife Katy lived in a remodeled 1896 school house, the former Ironhouse School, situated at the intersection of Sellers and Cypress Roads. Silas and Carlos Emerson had donated land for the school to Contra Costa County in 1885, with a provision that the land would revert to Emerson family ownership if it were no longer used for a school. After the school closed in 1935, Ralph Emerson remodeled the school house as a residence for Emerson Dairy foreman, Glenn Yoder, and his family. In 1962, Katy Emerson planned the second remodeling of the schoolhouse, as a residence for her own growing family. The Emersons moved into the schoolhouse in 1963, just before the birth of their first child. In 1972 the former school house was moved from its location one quarter of a mile back from Cypress Road to a knoll on the Emerson Dairy property, where it still stands, between the Ralph Emerson house and the quarantine barn (Katy Emerson 1984: 5-6, 49-50, 83-85).

A modern, open 32-stall milking barn was built on the Emerson Dairy in 1979. Cows were brought there for milking from big free-stall barns built in the 1970s and 1980s; each free-stall barn housed 400 cows. The 100 by 400 foot free stall barns allowed cows to either stand or lie down on a pile of sterile compost. The compost was made from the cows' manure, which was flushed down a concrete stall in the free stall where it was dried for use both in the stalls and in fertilizer. Three of the free-stall barns have been torn down. Calves were born year-round in a ranch corral known as the freshening pen.

By the 1990s, the Emerson Dairy had grown into a highly productive 2000-cow milking operation with 35 to 40 ranch hands, most of them employed year-round. The increase in production was achieved not only through expansion of the herd, but through state-of-the-art modern equipment purchased in 1980 that allowed more intensive milking. By 2001, the dairy was producing about 20,000 gallons of milk a day.

Stan and Katy Emerson raised three sons on the dairy ranch – Patrick, Michael, and Christopher; all three sons moved to the city to pursue other careers. When Emerson Dairy closed in 2002, after 89 years of continuous operation by four generations of the Emersons family, it was the last dairy ranch in Contra Costa or Alameda Counties. The property is now owned by Emerson Properties, Inc., a California corporation that is co-owned by Stan and Dale Emerson.

Study Methods and Results

ARCHAEOLOGICAL RESOURCES

ARCHIVAL RECORDS SEARCH

An archival record search was conducted for the project area at the Northwest Information Center of the California Historical Resources Information System, Sonoma State University, on March 12, 2004. The purpose of the search was to identify any previously recorded cultural resources within ¼ mile of the project parcels and to determine if any of the properties had been subject to previous cultural resources studies. Other sources reviewed for the archival study included the National Register of Historic Places (United States Department of the Interior, with updates through June 2008), the California Register of Historical Resources (CAL/OHP listings through June 2008), the *California Inventory of Historic Resources* (CAL/OHP 1976), *California Points of Historical Interest* CAL/OHP 1992), *California Historical Landmarks* (CAL/OHP 1996) and the *Historic Properties Directory* file for Contra Costa County (CAL/OHP 2006), as well as historic maps of the area. Furthermore, letters were also sent to the Contra Costa County Historical Society and the Antioch Historical Society regarding any concerns they may have pertaining to cultural resources within the project area.

The records search indicated that no cultural resources had been previously recorded within the proposed project area. The search did, however, identify ten cultural resources inventories that had been conducted within or directly bordering the project acreage. Most of these surveys were for linear projects such as pipelines and canals, but one survey (Baker 1985) involved all 320 acres of the Gilbert property located in the center of the Dutch Slough Restoration Project.

NATIVE AMERICAN CORRESPONDENCE

The Native American Heritage Commission (NAHC) was contacted on March 1, 2004 to request a search of their files regarding sacred sites or locations of cultural importance to local Native Ameri-

can communities. Three members of the Native American community, identified by the NAHC, were contacted by letter to solicit input about the project. The NAHC reported that no Native American cultural resources were known to exist within the project boundaries. One telephone response was received from one of the Naïve American community members contacted. The concern was about the status of the environmental document.

FIELD METHODS

An archaeological survey of the project area was conducted by DWR archaeologists in March 2004. Survey efforts included pedestrian transects spaces 20 to 30 meters apart. The study focused on acreage of Piper and Delhi Sands at elevations above sea level, although not all areas above sea level were examined. A little more than 90 acres were subject to pedestrian survey. Areas above sea level that were not surveyed included acreage that had clearly been subjected to a great deal of disturbance, such as leveling, or were covered with impenetrable vegetation. All of the knolls within the project boundaries exhibited evidence of disturbance, from extreme leveling to the construction of dairy facilities or ranch buildings. Because the Gilbert property had been previously surveyed (Baker 1985), it was not re-examined. Portions of the project area were again visited by DWR archaeologists in July 2008 to confirm the 2004 findings.

The Holman & Associates archaeological survey of the Ironhouse parcel included a literature review and site inspection. The Ironhouse parcel was inspected with 30-meter transects; in all, less than 50% of the parcel was subjected to adequate visual inspection due to dense standing and/or mowed hay. Soils throughout the parcel consisted of a grey-brown loam with scant amounts of native rock. The surveys discovered no evidence of prehistoric and/or historic resources on the Ironhouse site and concluded that development of the site "will have no effects on cultural resources" (Holman & Associates, September 2005).

RESULTS: ARCHAEOLOGICAL RESOURCES

The field study identified no archaeological resources on the Gilbert, Emerson, or Burroughs parcels (DWR 2008).

HISTORIC RESOURCES

ARCHIVAL RECORDS SEARCH

Pre-field sources consulted included the *Preliminary Historic Resources Inventory, Contra Costa County, California* (CAL/OHP 1976)*; National Register of Historic Places* (United States Department of Interior, 1991, and California Office of Historic Preservation updates to 1996), *California Inventory of Historic Resources* (CAL/OHP 1976), *California Historical Landmarks* (CAL/OHP 1996) and the California Points of Historical Interest (1992). Other sources consulted later included: the *Historic Properties Directory* for Contra Costa County (CAL/OHP 2006) with the most recent updates of the National Register of Historic Places; California Historical Landmarks; and, California Points of Historical Interest as well as other evaluations of properties reviewed by the State of California Office of Historic Preservation; *The California History Plan* (CAL/OHP 1973); the *Revised Preliminary Historic Resources Inventory, Contra Costa County, California (1989)* and, the *Contra Costa County Map of Historical Points of Interest (*CCCoHS 1994).

Research also was conducted at the following historical archives: University of California, Berkeley Libraries: Bioscience and Natural Resources Giannini Foundation of Agricultural Economics, Earth

Sciences Map Collection; San Francisco Public Library, Government Documents; San Francisco History Room, Periodicals; East Contra Costa Historical Society; Contra Costa Historical Society; Contra Costa County Public Library, Pleasant Hill; the Office of the Contra Costa County Assessor; and, the Oakland History Room, Oakland Public Library. Interviews were conducted with numerous individuals who had expert knowledge of the area.

FIELD METHODS

Field work for historic resources within the project area was conducted in the spring and early summer 2006 (Hill and Dobkin 2006). This included a tour of the structures with property owners Stan and Chris Emerson, and with Ernest Burroughs. All structures to be evaluated were physically examined and photographed; written descriptions were prepared of all buildings evaluated for the study. Each resource was recorded on California Department of Parks and Recreation record form 523.

RESULTS: HISTORIC RESOURCES

BURROUGHS PARCEL OVERVIEW

The Burroughs parcel is bounded by Jersey Island Road on the east, Cypress Road on the south, Little Dutch Slough on the west and Dutch Slough on the north. The buildings are located approximately at the center of the parcel. The Burroughs property's spatial organization includes two main clusters of buildings: the farm cluster and the housing cluster. The farm cluster includes a modern open shed for storing hay, an adjacent shed, a corrugated metal barn, a milking shed with a large circa 1960s addition, two wood-frame silos and shop/office building. North of the farm cluster is the housing cluster, that includes eight buildings: a large Colonial Revival style house, a Bungalow style house, a small remodeled house and a bunkhouse. The cluster includes a barn, new and old vehicle sheds and a wash house. All these buildings are within the project area of the Dutch Slough project.

BURROUGHS PARCEL DAIRY FARM CLUSTER

Access to the dairy building complex is from a gravel driveway perpendicular to Jersey Island Road, continuing west about 0.5 mile to the buildings. Several large trees are adjacent to the south side of the road. The first building approached from the driveway is the wood-frame rectangular plan office/refrigeration building with a three part hipped roof covered with asphalt shingles. The building was constructed in 1915. The exterior walls are rustic siding. The building has a corrugated metal covered addition on the south. The main (east) façade has an entrance porch with projecting porch roof supported by 6 wood posts set on a concrete pad. The dairy office is on the north side of the building. The adjacent spaces were for storing milk and other items related to the dairy operation. A heavy hinged door opens into the refrigeration unit; two sliding wood doors are to the south. The windows in the building (some are not boarded over) have been replaced with aluminum sliders.

Just west of the office/refrigeration building are two cylindrical wood-frame feed silos (approximately 20 feet in circumference). West of the silos was a large, rectangular plan (68 by 34 feet), wood-frame hay barn with a gable roof and corrugated metal walls. The barn collapsed in 2008 thus it no longer retains historic integrity. A cylindrical silo covered with corrugated metal is adjacent to what was the west façade of the barn.

Southwest of the hay barn, the hospital barn (circa 1915) is a square-plan, wood-frame building with a gable roof covered with corrugated metal. The building has a high concrete foundation. The exterior walls are covered with horizontal boards; a single sliding door is on the east facade.

The dairy barn or milking shed (constructed in 1915) just north of the hay barn is an approximately square plan (100 by 100 feet), wood-frame structure divided into two sections under double parallel gables covered with corrugated metal. A corral area is adjacent to the north. The building has four sliding doors on the north and south façades. A large square opening (covered with plywood on the north) is under the gable of the western section. The east façade, rebuilt in concrete block, was likely constructed in the 1960s along with the rectangular plan, concrete block addition, which extends to the east. The addition housed the bottling, refrigeration and processing facilities. The interior of the dairy barn is divided into aisles oriented north/south for milking the cows. The aisles are divided by the interior structural posts and tube steel stanchions used for holding the cows during milking.

BURROUGHS PARCEL HOUSING CLUSTER

A road, now abandoned, from the dairy complex continued northwest to two barns (no longer extant) originally south of the housing cluster. Wind-rows of trees are planted along this road as it continues north to the housing cluster. East of this road, the main road (still extant) from the dairy cluster continues north about 0.5 miles to the housing cluster. The main road first approaches the two-story, main farm-house, then continuing north in a loop to the other buildings in the housing cluster. A number of large trees are in the vicinity of the three houses and the bunkhouse in the housing cluster. The rectangular plan (38 by 31 feet), wood-frame, Colonial Revival style main house has steeply pitch gable roof covered with asphalt shingles. Inside, the house has a first floor living room, dining room and kitchen and a second floor with four bedrooms.

The single-story, apartment addition has clapboard siding and a gable roof matching the main house. Built in 1947 for Edna Burroughs, the addition is a separate living unit with its own living room, bedroom and kitchen. The addition has its main entrance on the north façade with a shed roof over the porch. A side-recessed porch is on the west façade of the addition. A modern porte-cochere and a side door are on the east facade of the main house.

In back of the main house to the north is the small, wood-frame, rectangular plan (about 12 by 20 feet) wash house for washing and drying clothes.

Two houses are adjacent and west of the main house. The wood-frame, single-story, rectangular plan (28 by 35 feet) Bungalow style house near the main house has a gable roof with wide eaves. Built in 1914 for the Nelson family, Edna Burroughs's parents, the house has a front yard enclosed by a wood picket fence. A single-car, wood-frame garage with a gable roof and rustic exterior siding is just south of the house.

A small, simply detailed bunk-house is just west of the Nelson's house. The building housed 4 dairy workers according to Ernest Burroughs. Obscured behind trees and vegetation, the wood-frame, rectangular plan building has a gable roof and exterior walls covered with rustic siding.

Northwest of the main house and bungalow is a c. 1900 house moved to this site in the 1950s and extensively remodeled (Burroughs 2006). The rectangular plan, single-story, stucco-sided, wood-frame house has a steeply pitched gable roof.

Across the driveway from the remodeled house is a large horse barn probably constructed in the 19th century, then later remodeled by the Burroughs family. The wood-frame, rectangular plan (51 by 64 feet) barn has a steeply pitched gable roof covered with corrugated metal.

Across from the barn is a long, L-shaped vehicle shed/shop/garage with a shed roof and exterior corrugated metal walls. A two-car, wood-frame garage with a gable roof and board-and-batten siding extends south facing the main house. A modern corrugated metal vehicle shed is east of the old vehicle shed.

A bunkhouse, dairy office and cook house originally included on the Burroughs property were moved to site on Jersey Island Road outside the project area. The buildings were moved in the late 1940s after the Burroughs Brothers acquired the adjacent parcel from Golden State Dairy.

GILBERT PARCEL OVERVIEW

The Gilbert parcel is bounded by Dutch Slough on the north, Emerson Slough on the west, Little Dutch Slough on the east and the Contra Costa Canal on the south. At the northern end of Sellers Avenue after crossing the Contra Costa Canal, a gravel driveway leads north to main building complex. Continuing north, a corral area is on the left and dairy barns and related buildings on the right. Oleander trees are along the main road to the main house. The road ends in a loop at the housing area circling around the main house adjacent to the boat landing on Emerson Slough north of the house.

The Gilbert property includes a large complex of 15+ buildings. One building separate from the densely built-up main complex is a large 1960 barn about a 0.5 mile to the north an area (up to Dutch Slough) that is otherwise open fields. This barn is located on the project site for the Dutch Slough project; all other buildings, as described below, are on the project site for the City of Oakley Community Park.

The Gilbert property's spatial organization includes two main clusters of buildings: the housing cluster and the diary farm cluster. Major landscape features at the Gilbert property include its circulation system, the concrete boat launch at the south end of Emerson Slough, the buildings and structures (main house, worker housing, farm buildings) and their spatial organization, fields, fencing, ditches and levees, low retaining wall that defines the edge of the front yard, and vegetation.

GILBERT PARCEL HOUSING CLUSTER

The housing cluster includes the main house, the caretaker's house, two additional single-family houses, the bunk-house (worker housing)/cook house, the cook's house and a vehicle shed.

The large main house, set off west of the driveway in a large lawn with perimeter palm trees, is a mid-1890s Queen Anne style building. The landscaping in the vicinity of the house includes the grass lawn around the house; palm trees along the east edge of Emerson Slough; palm and pepper trees along the east edge of the yard around the house; roses along the east edge of the yard; foundation plantings in front of the main house; palm trees flanking the boat launch into the slough; a magnolia tree and a sycamore tree in the yard of the main house; and walnut trees south of the main house.

The square plan (40 by 45 feet), single-story, wood-frame house has a moderately pitched hipped roof covered with projecting gables on the north, south and east facades. Two brick chimneys

project above the roof at the ridge. A porte-cochere on the east façade joins the house to a two car garage built in 1947. The garage is a single-story structure with a gable roof.

To the east of the main house across the main road are two additional single-family houses: the old caretaker's house and a modern house in the Ranch House style. The single story, H-shaped plan Ranch House style house was built in 1947-48 for Ernie Burroughs's aunt Leola (i.e. his mother's sister) (Burroughs 2006). The house is set in a yard with a lawn and a perimeter wood picket fence.

The small vernacular house east of the main house (and south of the 1947 house) is known as the caretaker's or dairy manager's house. This house likely dates from 1890s, the period when the main house was constructed. The square plan (about 30 by 30 feet), wood-frame, single-story house has a gently pitched hipped roof with shallow plain eaves. A detached single-car garage is adjacent to this house. The garage appears to date from the 1920s.

A long, rectangular plan, circa 1930s vehicle shed, with exterior walls covered with vertical wood boards and gabled roof covered with rolled roofing, is just north of the 1947-8 house. The cook's house is at the eastern end of the shed and just north of the worker's dining room and housing. The cook's house is a small, square plan, wood-frame structure with a shed roof.

The multi-unit worker housing building or "bunk-house" with an attached cook house for serving meals dating from the early 1930s housed apartments for 20 workers (Burroughs 2006). The bunk-house is a long, rectangular plan (116 by 25 feet) structure with a cross gable roof. There are pepper and walnut trees around the worker housing. The building has stucco exterior walls. The cook-house and dining room extends east about 40 feet from the bunk house. The cook-house resembles the bunk house with its cream colored, stucco walls, gable roof and wood-sash, double-hung windows. A modern 1970s concrete block building just south of the worker housing was a sitting and rest area for the dairy workers (Burroughs 2006). A small wood-frame single-family house with a gable roof and rustic siding is sited to the east of the housing cluster. Workers also resided in this house (now very deteriorated), moved to this location by the Burroughs family (Burroughs 2006).

GILBERT PARCEL DAIRY FARM CLUSTER

An east/west road separates the housing cluster on the north and the dairy farm cluster to the south. The dairy farm cluster includes two hay barns, two vehicle sheds, the old dairy barn, two modern dairy milking structures, the office/milk house, two concrete grain silos, and modern open milking shed, vehicle shed and hay storage shed.

Across from the bunk house to the south is a large hay barn with a gable roof covered with corrugated metal and walls covered with vertical wood planks of varying widths. In addition to the main house and caretaker's house, this barn dates from the mid-1890s, one of the few surviving buildings from the Brentwood Stock Farm period.

A long vehicle shed is just west of the barn. The wood-frame shed with a concrete foundation has a gable roof covered with corrugated metal. A second smaller vehicle shed is just east of the main vehicle shed. The small vehicle shed has a gable roof covered with corrugated metal and the exterior walls are covered with vertical wood boards. A shop/storage area on the east is enclosed with wood boards. The area to the west is open spaces for vehicle parking.

South of the small vehicle is a second large hay barn. The tall wood-frame barn has a steeply pitch gable roof covered with corrugated metal. The exterior walls are vertical wood planks on the east and west; the north wall is covered with corrugated metal.

The adjacent dairy barn (also known as a milking shed) south of the hay barn is wood-frame, square plan (about 110 by 110 feet) structure with four shed roofs with roof monitor windows. The building dates from the early 1920s. The building has a high concrete perimeter foundation with horizontal wood siding. A concrete-block milking shed is adjacent to the old dairy barn on the north.

West of the old dairy barn are two tall cylindrical concrete feed silos and the office/milk house (refrigeration) building. These structures also date from the 1920s. The rectangular plan (36 by 60 feet), single-story, wood-frame office/milk house has a flat roof. South of the dairy barn are additional buildings related to the dairy operation including a modern (1970s) open metal hay/vehicle shed and a large, open air steel-frame milking shed.

EMERSON PARCEL OVERVIEW

The Emerson property in the project area is flat or gently rolling grasslands north of the Contra Costa Canal. The buildings on the Emerson dairy farm are organized into two complexes north and south of the Contra Costa Canal. North of the Canal, the dairy cluster is in the area planned for the City Community Park Project area. The Emerson houses and one barn are south of the Canal in the area of the Dutch Slough Properties Project. All of these buildings are located within the project area for the City of Oakley Community Park.

EMERSON PARCEL HOUSING CLUSTER

A driveway perpendicular to Sellers Road leads west to the two Emerson houses and a barn used for quarantining cows with tuberculosis. The dirt road has a number of small trees along its length. Perpendicular to the main driveway, a road to the north continues to the barn (southeast of the house) and the first Emerson house (the original 1896 Ironhouse School), looping back to the main driveway. The rectangular plan (with a gabled extension on the west), wood-frame, 1940s barn is set on a high concrete foundation. The barn has a central gable with shed roofs over the side wings. The wood-frame, rectangular plan house northwest of the barn has a white picket fence adjacent enclosing the front yard. The house has a main, two-story, cross-gable roof. A fence encloses the modern swimming pool, an adjacent modern pool house and a modern wood-frame, detached garage is east of the house.

The second house (1925 Ralph Emerson house) is at the western end of the main driveway. The rectangular plan, wood-frame house has a gable roof covered with asphalt shingles. The exterior walls are covered with vertical wood siding. The front façade has a center entrance porch below an extension of the main roof supported by turned posts (the wood ramp to the entrance is a later addition).

EMERSON PARCEL DAIRY FARM CLUSTER

The Emerson dairy complex (approximately a half mile to the north of the houses) includes five older buildings - the dairy barn, a horse stable, worker housing, a large vehicle shed – a couple of modern structures (milking shed and hay storage) related to the dairy operation. Access to the dairy

buildings is from second dirt road perpendicular to Sellers Road, immediately after it crosses the Contra Costa Canal.

Across from the circa-1930 vehicle shed are the stable and the dairy barn, both built in 1913. The wood-frame stable has a rectangular plan and a steeply pitched gable roof covered with corrugated metal. The south façade retains its original vertical wood boards; the side facades are partially stucco. The gabled milk house and other ancillary facilities are housed in the long, rectangular structure connected to the north side of the dairy barn.

The worker housing (early 1940s) east of the dairy barn is a long, rectangular wood-frame structure with a series of doors and flanking windows opening into the individual apartments on the west facade. The 1920s cook-house northwest of the worker housing is a square plan, wood-frame building with a hipped roof. The exterior walls are covered with stucco and the windows are modern.

HISTORIC STRUCTURE EVALUATION

The main house on the Gilbert property and the main Burroughs house appear to be eligible under California Register Criterion 3 as distinguished examples of farmhouses of their styles (Queen Anne and Colonial Revival) and periods in Eastern Contra Costa County. Both houses retain high levels of historic integrity. The periods of significance would be the construction dates for the two houses: 1895 for the Gilbert house and 1926 for the Burroughs house. The main Gilbert house is proposed to be preserved as part of the City Community Park. The main Burroughs house is on the site of the Dutch Slough Restoration Project.

The former Ironhouse School (Emerson house) is on the California History Plan (CAL/OHP 1973:55) and California Inventory of Historic Resources under the theme of Social/Educational (CAL/OHPO 1976:209, 229), is listed on the Revised Preliminary Historic Resources Inventory of Contra Costa County as a "Structure of Historical Significance" (CCCo/CDD 1989:East Contra Costa area), and is on the Contra Costa County Map of Historical Points of Interest places (Contra Costa County Historical Society (CCCoHS) 1994:#148). Ironhouse School is listed on the Historic Properties Directory (HPD) on Cypress Road in Brentwood [sic] as a "code 7, Not evaluated for inclusion on the National Register of Historic Places or the California Register of Historical Resources or needs reevaluation." The HPD assigns Number P-07-000903 to the school (CAL/OHP 2006). The extensive alterations to the Ironhouse School since it was moved in 1973 have compromised its historic integrity, thus it does not appear to be eligible for the California Register. This structure is currently located off the project sites and is proposed to be moved onto the City Community Park site.

None of the other buildings in the Dutch Slough Restoration Project area or City Community Park area appear to be architecturally significant as building types, thus they do not appear to be significant under California Register Criterion 3. Historically, the members of the Emerson and Burroughs families do not appear to be sufficiently significant figures in local, state or national history for their properties to be eligible under California Register Criterion 2.

California OHP concurrence with the above proposed eligibility evaluations for individual structures is pending.

HISTORIC LANDSCAPE EVALUATION

Although only two structures within the Dutch Slough Restoration Project area appear to be individually eligible for listing on the California Register, the building complexes that contain the dairies do appear to contribute to a historic landscape. Identifying a rural historic landscape involves a complex analytic process. The standard guidelines for evaluating a rural historic landscape are outlined in *National Register Bulletin 30 - Guidelines for Evaluating and Documenting Rural Historic Landscapes*. A rural historic landscape is defined as a "geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features." As a type of historic district, a rural historic landscape is characterized by having extensive acreage in relation to the buildings and structures (such as a ranch or farming community), unlike a typical historic district. Rural historic landscapes are also distinct from a designed landscape in that they are not the work of professional designers.

A detailed evaluation of the Dutch Slough properties as a potential historic landscape was conducted for this EIR by Ward Hill, Marjorie Dobkin and Denise Bradley in July 2006. That evaluation concluded that The Dutch Slough area appears to be a rare surviving dairy landscape dating from the 19th or early 20th Century in the San Francisco Bay Area. Historically, in addition to the Knightsen area (south of the project site), Contra Costa County had many family-run dairy farms in the Orinda/Moraga area and the Pinole area, none of which survive today. The dairies in Alameda County have also been replaced by modern development in the last 40 years. The only significant surviving enclave of historic dairy farms in the Bay Area is in Western Marin County, an area now largely protected as part of the Golden Gate National Recreational Area.[1]

The conclusion of the historic evaluation by Hill et al. is that the area appears to qualify as a "Rural Historic Landscape" under Criterion 1 of the California Register. The area included in the proposed rural historic landscape encompasses the Emerson, Gilbert and Burroughs parcels (including the Dutch Slough Restoration Project area), the City Community Park area and the Dutch Slough properties project south of the Contra Costa Canal. The approximate boundaries of the district are historic boundaries of the Emerson, Golden State Dairy and Burroughs Brothers Dairy: Cypress Road on the south, Jersey Island Road on the east, Dutch Slough on the north and Marsh Creek on the west. The period of significance is from 1913 to 1955. The development of the Dutch Slough levee systems after 1913 stabilized the land, thus making the dairy farms feasible by protecting them from the damaging floods of previous years. The period of significance concludes approximately 50 years ago. The approximate boundaries of the district are historic boundaries of the Emerson, Golden State Dairy and Burroughs Brothers Dairy: Cypress Road on the south, Jersey Island Road on the east, Dutch Slough on the north and Marsh Creek on the west.

The buildings contributing to the district on the Emerson parcel include:

- Ralph Emerson house
- Emerson house (Ironhouse School)
- "tuberculosis" barn

[1] The historic dairy district in West Marin has been documented in D.S. Livingston's major study- *A Good Life Diary Farming in the Olema Valley* (National Park Service,1995). No dairies survive in the Santa Clara Valley and one dairy producing goat cheese (Harley Farms) survives in San Mateo County. Since World War II, the Bay Area dairies with the exception of Marin and Sonoma Counties have largely moved to Fresno and Tulare Counties in the Central Valley.

- main dairy barn
- horse stable
- vehicle shed
- worker housing
- cook house.

The Ralph Emerson house, Ironhouse School, and tuberculosis barn are located on the Dutch Slough Properties Project (outside the sites covered by this EIR); the other five buildings are within the project area for the City of Oakley Community Park.

The contributing buildings on the Gilbert parcel include:

- main house
- caretaker's house
- worker housing/cook house
- the cook's house
- two hay barns
- dairy barn
- office/refrigeration building
- 3 vehicle sheds.

All of these buildings are within the project area for the City of Oakley Community Park except for the dairy barn built in the 1960's, which is on the Dutch Slough Restoration Project site.

The buildings contributing to the district on the Burroughs property include:

- main dairy barn
- office/refrigeration building
- wood-frame silos
- hospital barn
- main house
- Nelson's house
- bunk house
- old vehicle shed
- horse barn.

All of these buildings are within the project area for the Dutch Slough Restoration Project.

The hay barn (originally identified as contributing) near the silos collapsed in 2008 is no longer contributing because of the loss of historic integrity. A number of significant landscape features contribute to the district. The levee system and major defining waterways (Dutch Slough, Emerson Slough, Little Dutch Slough and Marsh Creek) contribute as boundary defining landscape features. The flood control provided by the levees also made this area a viable for agriculture. The open fields adjacent to the building clusters define the relationships between the agricultural (grazing, crops etc.) and the work/living areas. Roads to the Emerson house, driveways to the Burroughs dairy cluster and housing cluster, the road joining the Gilbert parcel to the Burroughs parcel are significant as part of the historic circulation patterns in the district. The palm trees in the vicinity of

the main house and other major trees in the vicinity of the housing cluster on the Gilbert parcel are also contributing resources.

California OHP concurrence with the above proposed eligibility evaluation for a historic landscape is pending.

Regulatory Setting

Numerous laws and regulations require federal, State, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Office of Historic Preservation [OHP] and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended; the California Environmental Quality Act (CEQA); and the California Register of Historical Resources, Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of cultural resources of national, State, regional, and local significance.

Implementation of the proposed action or an alternative would require compliance with Section 106 of the National Historic Preservation Act (NHPA) and CEQA. Federal and State significance criteria are provided below. The significance of project impacts on cultural resources is related to the following factors: the presence, nature, and importance of any cultural resources that may be present in the treatment area; the location, size, and access requirements of the treatment areas; and need for heavy equipment.

FEDERAL REGULATIONS

The NHPA defines the nation's policy for the protection and preservation of the country's most significant cultural resources, which are those resources identified as eligible for listing in the National Register of Historic Places (National Register). Cultural resources eligible for the National Register are referred to as historic properties.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures and objects of potential significance must meet one or more of the following four established criteria, as defined under Title 36 Code of Federal Regulations (CFR) Part 60.4:

a) Are associated with events that have made a significant contribution to the broad patterns of our history;

b) Are associated with the lives of persons significant in our past;

c) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;

d) Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting these four criteria, a historic property must also possess integrity. The various aspects of integrity include location, design, setting, materials, workmanship, feeling, and

association. Furthermore, unless the resource possesses exceptional significance, it must be at least 50 years old to be considered for National Register listing.

The implementing regulations for the protection of historic properties are defined under Title 36 Code of Federal Regulations (CFR) Part 800. The regulation defines effect and adverse effect on historic properties as follows:

Section 800.9(a) Criterion of Effect: An undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify it for inclusion in the National Register. For the purpose of determining effect, alteration to features of a property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.

Section 800.9(b) Criteria of Adverse Effect: An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

- Physical destruction, damage, or alteration of all or part of the property;
- Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect of a property resulting in its deterioration or destruction; and/or
- Transfer, lease, or sale of the property without adequate provisions to protect historic integrity.

STATE REGULATIONS

Policy for the protection and preservation of the State's most significant cultural resources is found in various sections of CEQA, the State CEQA Guidelines, and in statutes of the PRC. In September, 1992, Governor Wilson signed Assembly Bill 2881 which created more specific guidelines for identifying historic resources during the project review process under the CEQA:

A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. For purposes of this section, an historical resource is a resource listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register).[2]

Consequently, under Section 21084.1 of the PRC, an historic resource eligible for the California Register would by definition be an historic resource for purposes of CEQA compliance. The regulations for nominating resources to the California Register were published January 1, 1998. Under the regulations, a number of historic resources are automatically eligible for the California Register if they have been listed under various state, national or local historic resource criteria.

2 California State Assembly, Assembly Bill 2881, Frazee, 1992. An Act to Amend Sections 5020.1, 5020.4, 5020.5, 5024.6 and 21084 of, and to add Sections 5020.7, 5024.1, and 21084.1 to, the Public Resources Code, relating to historic resources.

California historic resources listed in, or formally determined eligible for the National Register are automatically listed on the California Register.

In order for a resource to be eligible for the California Register, it must satisfy all of the following three criteria:

A. A property must be significant at the local, state or national level, under one or more of the following four criteria of significance (these are essentially the same as National Register criteria with more emphasis on California history):

   1. The resource is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States.

   2. The resource is associated with the lives of persons important to the nation or to California's past.

   3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

   4. The resource has the potential to yield information important to the prehistory or history of the state or the nation (this criteria applies primarily to archaeological sites).

B. The resource retains historic integrity (defined below) and

C. It is 50 years old or older (except for certain cases described in the California Register regulations).

The California Register regulations define "integrity" as "… the authenticity of a property's physical identity, evidenced by the survival of characteristics that existed during the property's period of significance," that is, it must retain enough of its historic character or appearance to be recognizable as an historical resource. Following the National Register integrity criteria, California Register regulations specify that integrity is a quality that applies to historic resources in seven ways: location, design, setting, materials, workmanship, feeling and association. A property must retain most of these qualities to possess integrity.

The use of the phrase ".. . . appears potentially eligible or not eligible" for the California Register is standard practice in an evaluation discussion. Only the State Office of Historic Preservation can make an actual determination of eligibility for the California Register.

3.12.3 Impacts and Mitigation Measures

Significance Criteria

Under Appendix G of the *CEQA Guidelines*, a proposed project is considered to have a significant impact if it would result in any of the following:

• A substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the National Register, the California Register, or a local register of historic resources;
• A substantial adverse change in the significance of a unique archaeological resource;

• Disturbance or destruction of a unique paleontological resource or site or unique geologic feature; or
• Disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (Public Resources Code, Section 21084.1). *CEQA Guidelines* Section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be "materially impaired" (*CEQA Guidelines*, Section 15064.5[b][1]).

CEQA Guidelines, Section 15064.5(b)(2), defines "materially impaired" for purposes of the definition of "substantial adverse change" as follows:

The significance of a historical resource is materially impaired when a project:
• Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

• Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

• Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

In accordance with *CEQA Guidelines* Section 15064.5(b)(3), a project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties* is considered to have mitigated impacts to historic resources to a less-than-significant level.

Alternative 1: Minimum Fill

IMPACT 3.12.1-1: LOSS OF UNKNOWN ARCHAEOLOGICAL RESOURCES (ALL PROJECTS AND ALL OPTIONS)

Although there are no known archaeological resources on any of the project sites, there is some potential that such resources could be encountered on the project parcels during excavation of channels and borrow areas. Therefore, the project could have a potentially significant impact to any such resources.

MITIGATION MEASURE 3.12.1-1: CEASE WORK AND CONDUCT ASSESSMENT

Should archaeological materials (including, but not limited to, flaked stone tools and chipping debris, ground stone tools, human skeletal remains, historic bottles, structure foundations, etc.) be uncovered while conducting activities associated with the proposed project sites, all work should

temporarily cease in the vicinity of the finds until they can be assessed by a qualified archaeologist and an appropriate course of action can be determined in consultation with the State Historic Preservation Officer. Furthermore, should human remains be discovered during project-related activities, the requirements of Section 7050.5 of California's Health and Safety Code shall be followed. This includes stopping work within proximity of the finds and contacting the County Coroner for an evaluation of the remains. If the remains are determined to be ancestral Native American, the coroner must contact the Native American Heritage Commission within 24 hours.

IMPACT SIGNIFICANCE AFTER MITIGATION

Less than significant after mitigation.

IMPACT 3.12.1-2: DEMOLITION OF HISTORIC STRUCTURES/LANDSCAPE FEATURES THAT CONTRIBUTE TO RURAL HISTORIC LANDSCAPE (DUTCH SLOUGH RESTORATION PROJECT AND CITY COMMUNITY PARK)

The Dutch Slough Restoration Project and the City Community Park Project propose to demolish the buildings and related landscape features on the Burroughs, Emerson and Gilbert properties except for four buildings retained in the "Historic Area" of the City Community Park Project area. The four buildings to be retained in the "Historic Area" are Gilbert House, the adjacent caretaker's house, a barn, and Ironhouse School (Emerson house), which would be moved from its current location south of the two projects. The other buildings on the Emerson (all on the site of the City Community Park), Gilbert (all but one on the site of the City Community Park) and Burroughs (all on the site of the Dutch Slough Restoration Project) parcels would be demolished or otherwise removed. Materials from some buildings may be incorporated in the design of new buildings planned for the Park.

The contributing Dutch Slough Restoration Project and City Community Park buildings and landscape features outlined in the Setting section, above, appear to be eligible for the California Register as a Rural Historic Landscape. Under the CEQA Statutes and Guidelines a "substantial adverse change" such as "…demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historic resource would be materially impaired" is considered to be a significant effect on historic resources. The demolition of the contributing buildings, related structures and landscape features in the Dutch Slough Rural Historic Landscape would constitute a substantial adverse change to an historic resource, thus it is a significant impact under CEQA.

"NO BURROUGHS" OPTION

If the Burroughs parcel is not restored to tidal action, approximately 350 acres of rural landscape would be preserved. If the buildings on the parcel were to be preserved as part of this option, a resident caretaker would be required to maintain them.

MITIGATION MEASURE 3.12.1-2.1: RELOCATE HISTORIC STRUCTURES

The historic structures, which are those buildings that meet the "Criterion 3" as defined above, include the main Gilbert House and the main Burroughs House. Both structures shall be offered to be moved to other locations in the Dutch Slough area. If a building is moved from its original location, the new location must be appropriate to the historic character of the building, i.e. rural

location similar to its historic location. Project impacts would be reduced further the closer the moved site is to a building's historic site.

The feasibility of moving the buildings has not been determined, and is beyond of the scope of this analysis. The feasibility of moving the building can only be determined by a contractor or engineer experienced in moving historic buildings. Although most wood-frame buildings can usually be moved without difficulty, the structural condition needs to be evaluated to determine if it can be moved and not significantly damaged. The dairy barns and other buildings are too large to be moved.

MITIGATION 3.12.1-2.2: SALVAGE MATERIALS AND FEATURES

This mitigation measure shall apply only to those buildings that meet "Criterion 1" as defined and listed above, except for those buildings that are covered under "Criterion 3" and subject to Mitigation 3.12.1-2.1. For the contributing buildings that are not retained or moved, salvaging materials and features of the buildings shall be done to reduce project impacts. The salvaged materials could be incorporated into buildings on the project site or on other sites in the area. Preserving features and materials of the buildings at their historic location would reduce project impacts more than moving these features and materials to a new site. Representatives of the East Contra Costa County Historical Society, the Contra Costa County Historical Society, the City of Oakley and other interested parties shall be contacted and given the opportunity to examine the buildings and provide suggestions for salvaging various features.

The project impacts would be reduced commensurate with the percentage of the existing structures that can be salvaged or otherwise preserved. The preservation of one or more of the significant interior and exterior features from the buildings as part of a new building would reduce projects impacts, but not to a less-than-significant level since most of the structure would still be demolished.

MITIGATION MEASURE 3.12.1-2.3: HISTORIC DOCUMENTATION

Prior to the demolition, salvage, or moving of the contributing Dutch Slough buildings and related landscape features, they shall be photographically documented according to the Historic American Building Survey (HABS) *Photographic Specifications* published by the Great Pacific Basin Office of the National Park Service, Oakland, California. This documentation shall include archival quality, large format (minimum 4 by 5 inch) photographs of the exterior and interior of the buildings. The documentation shall focus on the individual buildings and structures, related landscape and surrounding pastures/crop lands used as part of the dairy operations. Written documentation shall include a narrative report according to the instructions in the *Historic American Building Survey Guidelines for Preparing Written Historical and Descriptive Data* published by the Cultural Resources division of the Pacific Great Basin Support Office of the National Park Service, Oakland. The documentation should include oral histories with appropriate members of the Emerson and Burroughs families regarding the histories of the Dutch Slough dairies. In addition to photographs, the documentation shall include historic maps and aerials. A copy of the documentation, with original photo negatives, prints and plans, should be donated to an historical archive accessible to the public and with facilities for storing archival photographs, such as the East Contra Costa County Historical Society, Oakley or the Contra Costa County Historical Society, Martinez.

MITIGATION 3.12.1-2.4: DUTCH SLOUGH DAIRY EXHIBIT

A museum exhibit shall be mounted on the subject of the Dutch Slough Rural Historic Landscape in the City Community Park Project area. The material assembled for the HABS documentation can be used in the exhibit. The exhibit would somewhat reduce the project impacts, but not to a less-than-significant level.

IMPACT SIGNIFICANCE AFTER MITIGATION.

The mitigation measures identified above would reduce the project impacts, however this would remain a Significant Unavoidable Impact.

Cumulative Impacts to Historic and Prehistoric Resources

Recent and planned residential development throughout the local area, including the three projects addressed in this EIR, will have cumulative impacts on historic and prehistoric resources. Eastern Contra Costa County is undergoing a significant land use change from rural to suburban, resulting in land clearing and disturbance of many hundreds (or thousands) of acres.

The main project and one related project addressed in this EIR (Dutch Slough Restoration Project and City Community Park, respectively), together with an adjacent unrelated project (Dutch Slough Properties), form a Rural Historic Landscape. This Landscape will be lost once all three projects have been constructed, and each will contribute to the cumulative impact.

The combination of projects could potentially add to the cumulative loss of archaeological sites in the project area. However, due to the lack of known archaeological sites on the project sites and the acceptability of the proposed mitigation measures, the Dutch Slough Restoration Project, Ironhouse Project, and City Community Park Project contributions to this cumulative impact to archaeological sites would be less than significant.

The proposed land plan for the Dutch Slough Properties project south of the Contra Costa Canal includes commercial and residential development. The plan includes trails, parks, levees, storm water detention ponds as well as the infrastructure improvements necessary to accommodate the new development. The Dutch Slough Properties residential development project (south of the CCWD canal) would include removal of the Ralph Emerson house and the "tuberculosis" cow barn (the adjacent Ironhouse School would be moved to the Community Park). The existing roads, landscaping and pastures will be developed with new buildings and infrastructure.

The combined impacts of the Dutch Slough Restoration Project, the City Community Park Project, and the Dutch Slough Properties project on the Dutch Slough Rural Historic Landscape would result in a significant cumulative impact on historic resources. Because there are no structures on the Ironhouse parcel, that project would not contribute to this cumulative impact.

The mitigation measures discussed above would reduce the project's cumulative impacts. Cumulative loss of archaeological resources would be less than significant, however cumulative loss of historic landscapes would remain significant and unavoidable.

Alternative 2: Moderate Fill Alternative

IMPACT 3.12.2-1: LOSS OF UNKNOWN ARCHAEOLOGICAL RESOURCES (ALL OPTIONS)

Same as Alternative 1.

MITIGATION MEASURE

Same as Alternative 1.

IMPACT 3.12.2-2: DEMOLITION OF HISTORIC BUILDINGS/LANDSCAPE FEATURES (ALL OPTIONS)

Same as Alternative 1.

MITIGATION MEASURES

Same as Alternative 1.

Alternative 3: Maximum Fill

IMPACT 3.12.3-1: LOSS OF UNKNOWN ARCHAEOLOGICAL RESOURCES (ALL OPTIONS)

Same as Alternative 1.

MITIGATION MEASURE

Same as Alternative 1.

IMPACT 3.12.3-2: DEMOLITION OF HISTORIC BUILDINGS/LANDSCAPE FEATURES (ALL OPTIONS)

Same as Alternative 1.

MITIGATION MEASURES

Same as Alternative 1.

Alternative 4: No Project

The No Project would reduce impacts to a less-than-significant level because the buildings and landscape features would not be removed. The buildings would likely continue to deteriorate if they are not used and maintained. Any as-yet undiscovered archaeological resources would not be affected.

Table 3.12-1 Summary of Cultural Resources Impacts for Dutch Slough and Related Restoration Projects

Impact	Dutch Slough Restoration Project	Related Projects	
		Ironhouse Project	City Community Park Project
Impact 3-12.1-1: Loss of Unknown Archaeological Resources	Potentially Significant	Potentially Significant	Potentially Significant
Impact 3-12.1-2: Demolition of Historic Buildings/Landscape Features	Potentially significant loss of buildings/landscape Burroughs parcel	No impact; no structures	Potentially significant loss of buildings/landscape on Gilbert and Emerson parcels
Impact 3-12.1-3: Cumulative Impacts	Cumulative loss of historic and prehistoric resources	Cumulative loss of prehistoric resources	Cumulative loss of historic and prehistoric resources

Table 3.12-2 Summary of Cultural Resources Mitigation Applicability for Dutch Slough and Related Restoration Projects

Mitigation	Dutch Slough Restoration Project	Related Projects	
		Ironhouse Project	City Community Park Project
Mitigation 3.12-1– Cease Work and Conduct Assessment	X	X	X
Mitigation 3.12-2– Relocate Buildings (Main Gilbert and Burroughs Houses- Criterion 3)	X		X
Mitigation 3.12-3– Salvaging Buildings (Criterion 1)	X		X
Mitigation 3.12-4– Historic Documentation	X		X
Mitigation 3.12-5– Dutch Slough Dairy Exhibit	X		X